SBSC Highlights May 25, 2006

USGS Ecologists and Geologists Collaborate in Research on Endangered Plant:

USGS ecologists from the Southwest Biological Science Center and USGS geologists from the Earth Surface Dynamics Program have initiated collaborative research on the federally endangered Shivwits milkvetch, a narrowly distributed endemic plant with only five known populations in Washington County, Utah.

This research focuses on plant-soil relations and threats from invasive exotic plants, and is being conducted in support of the National Park Service (Zion National Park), the Bureau of Land Management, the U.S. Fish and Wildlife Service, and the Shivwits Band of the Paiute Indian Tribe. Previous work suggested that occurrences of this species were restricted to outcroppings of the Petrified Forest Member of the Triassic Chinle Formation, but during the first week of this new study, the interdisciplinary USGS team documented occurrences on the Dinosaur Canyon Member of the Jurassic Moenave Formation.

This significant finding expands the concept of potential habitat for this rare and endangered plant and thus may lead to the discovery of additional populations. (Mark Miller, Kanab, UT, 435.644.4325).

Flagstaff Science Center Pedals to Reduce Hydrocarbon Dependancy

The USGS has official policies aimed at reducing parking pressures at the jobsite as well as to encourage and subsidize its employee's to pursue physical fitness. Bike To Work Week (BTWW), part of a national program, meets both those objectives. While the Flagstaff Field Center, with about 170 employees in Arizona, has participated in BTWW since 2002 under Susan Hueftle's direction; participation remained low, from 6% to 8%, through 2005. This year, Ms. Hueftle's efforts initiated competition between several USGS buildings and offices. The Grand Canyon Monitoring & Research Center/ Colorado Plateau Research Station buildings increased their participation to 53%, tying for second place in the city-wide program, and all the USGS offices significantly improved participation. Cars parked at FFC were reduced 38% on the day of the worksite challenge, and many new cyclists enjoyed the experience and the fuel savings.

Links to USGS policies which support Bike To Work Week objectives:
http://www.usgs.gov/usgs-manual/410/429-7.html
http://internal.usgs.gov/ops/ref-docs/employee_email/fy00/ftbprog.html
http://internal.usgs.gov/ops/hro/benefits/physical/

Whole Lot of Snakin' Goin' On!

Graduate Student Kevin Baker, guided by USGS Researcher Cecil Schwalbe, assisted with a prescribed burn in the Boot Heel of New Mexico May 15-16 gathering data on snake response to the fire. Baker, Schwalbe, and University of Arizona collaborator Matt Goode are studying the entire snake community as part of a larger

study of the effects of fire and cattle grazing on the grassland biome. In two field seasons preceding the burn, they captured 1,199 individual snakes comprising 20 different species.

Additionally they are studying habitat use by, and activity patterns of, Prairie Rattlesnakes (*Crotalus viridis viridis),* while other scientists concomitantly monitor rodent and lizard abundances. This allows them to look at relationships between snake distributions, relative abundances, and conditions of rodent and lizard prey, taking community monitoring to another entire trophic level. Immediate response of the rattlesnakes to the fire was to lie low.

Because of the great fire danger this spring throughout the Southwest, a special request to the state of New Mexico was required to conduct this prescribed burn, a cooperative project between private ranchers, state and federal agencies, and researchers. (Cecil Schwalbe, USGS Southwest Biological Science Center; cschwalbe@usgs.gov; 520-621-5508 ext 3.)

Yale Forestry Comes to the Sonoran Desert

On May 25, USGS researchers Cecil Schwalbe and Todd Esque will host 45 graduate students, faculty and international scientists as part of a field course conducted by the Yale School of Forestry. Esque and Schwalbe will explain their research on the relationship between fire and invasive grasses in North American deserts and the effects of those fires on native plants and animals. The group will meet with the USGS scientists near Saguaro National Park East and then visit the park to see the effects of buffelgrass removal there. (Cecil Schwalbe, USGS Southwest Biological Science Center, cschwalbe@usgs.gov, 520-621-5508 ext 3; Todd Esque, USGS Western Ecological Research Center, todd_esque@usgs.gov, 702-564-4506)